

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated February 2, 2007, has been received and its contents carefully reviewed.

Claims 1-30 are rejected by the Examiner. With this response, claims 10-12 and 24 have been amended. No new matter has been added. Claims 1-30 remain pending in this application.

In the Office Action, claims 1, 3, and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,946,066 to Lee et al. (hereinafter "Lee") in view of Applicants' Related Art (hereinafter "ARA"). Claims 2, 4-7 and 9-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of ARA, and further in view of U.S. Patent No. 5,745,207 to Asada et al. (hereinafter "Asada").

The rejection of claims 1, 3, and 8 under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of ARA is respectfully traversed and reconsideration is requested. Applicants submit that Lee and ARA, analyzed singly or in any combination do not teach the combined elements of the claims.

As an initial matter, Applicants submit that FIG. 2 of the drawings submitted as part of the Applicants specification as filed, and cited by the Examiner in rejecting the claims is not part of the Background of the Invention Section of the Applicants' Specification and has not been designated as 'Related Art' or as prior art. FIG. 2 is described in Applicants' specification as showing "an in plane switching mode LCD device according to the first embodiment of the present invention." See page 7, lines 17-19 of Applicants' specification as filed. Accordingly, Applicants submit that FIG. 2 is not prior art under Title 35 of the U.S.C. and may not properly be used to reject Applicants' claims.

Independent claim 1 recites a liquid crystal display device having a combination of features including "wherein each pixel region includes: ... at least one common line in the pixel region, the common line crossing the data lines, the data electrode, and the common electrode, wherein the common line is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate line."

In rejecting claim 1, the Examiner acknowledges that Lee does not disclose “wherein the common line is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate line” and cites Applicants’ Related Art in the Background of the Invention Section of Applicants’ Specification as allegedly curing this deficiency, specifically citing FIGs. 1 and 2 of the drawings filed with Applicants’ Specification. Applicants respectfully disagree with the Examiner’s conclusion regarding the Applicants disclosure.

Applicants submit that neither FIG. 1, nor the associated text of Applicants’ Specification teach or suggest at least “wherein the common line is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate line” as recited in claim 1. For example, the third full paragraph on page 2 of the Background of Invention portion of Applicants’ specification as filed states, “The common line 15, the gate lines 11 and 11a, and the common electrodes 14 are formed by the same process and are flush with one another.”

Applicants submit that Applicants’ Related Art does not cure the deficiency in the teachings of Lee. Applicants respectfully submit that as Lee and Applicants’ Related Art, analyzed singly or in combination do not teach the combined features of claim 1, and accordingly submit that claim 1, and claims 3 and 8 depending from claim 1 are each allowable over Lee and Applicants’ Related Art.

The rejection of claims 2, 4-7 and 9-30 under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Applicants’ Related Art, and further in view of Asada is respectfully traversed and reconsideration is requested.

As discussed above, claim 1 recites a liquid crystal display device having a combination of features including “at least one common line in the pixel region, the common line crossing the data lines, the data electrode, and the common electrode, wherein the common line is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate line.” Applicants note that claims 2, 4-7, and 9 each depend from claim 1 and that each includes by reference all of the limitations of claim 1.

In rejecting claims 2, 4-7, and 9, the Examiner relies on Lee and Applicants’ Related Art as teaching the above cited combination of elements, and uses the same rationale given for claim 1. The Examiner cites Asada to cure deficiencies in the teachings of Lee and Applicants’ Related Art regarding elements explicitly cited in claims 2, 4-7, and 9.

As Applicants have discussed above, Lee and ARA does not teach at least “wherein the common line is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate line” as recited in claim 1. The Examiner cites Asada as teaching elements explicitly recited in claims 2, 4-7, and 9. Applicants do not reach the Examiner’s conclusions regarding the teaching of Asada. Applicants submit that Asada does not cure the deficiencies in the teachings of Lee and Applicants’ Related Art with respect to the combination of features recited in claim 1. Accordingly, Applicants respectfully submit that Lee, Applicants’ Related Art, and Asada, analyzed singly or in any combination, do not teach the combined features of claim 1, and that claims 1, and claims 2, 4-7, and 9 are each allowable over Lee, Applicants’ Related Art, and Asada.

Independent Claim 10 recites a liquid crystal display device having a combination of features including “wherein each pixel region includes: at least one light shielding layer on the pixel region, the light shielding layer including light shielding lines that each cross the data lines, the data electrode, and the common electrode at respective ones of the data line bent portions, the data electrode bent portions and the common electrode bent portions, wherein the at least one light shielding layer is formed on a different layer in a cross sectional view taken perpendicular to the surface of the substrate from the gate lines.” Applicants submit that none of the cited references including Lee, Applicants’ Related Art, and Asada, analyzed singly or in any combination, teach at least the above quoted combination of features of claim 10. Accordingly, Applicants submit that claim 10, and claim 11 depending from claim 10 are each allowable over Lee, Applicants’ Related Art, and Asada.

Independent Claim 12 recites an in-plane switching mode liquid crystal display device having a combination of features including “wherein each pixel region includes: a plurality of data electrodes and common electrodes each having a plurality of segments intersecting at bent portions, the data electrode segments each substantially parallel to a common electrode segment of the plurality of common electrode segments; a common line on bent portions of the data lines, the data electrodes and the common electrodes; and a plurality of auxiliary common lines on bent portions of the data electrodes and the common electrodes.”

In the Office Action, the Examiner cites Lee as teaching this combination of features. Applicants respectfully disagree with the Examiner’s conclusion. For example, Lee does not teach or suggest “a common line on bent portions of the data electrodes” as recited in claim 12.

As shown in FIG. 1 of Lee illustrating a pixel, neither common line 13(b) is “on bent portions of the data electrodes” as recited in claim 12.

The Examiner cites ARA and Asada to cure deficiencies in the teachings of Lee. Applicants submit that ARA and Asada do not teach or suggest the above identified feature. For example, ARA does not disclose a “common line on bent portions of the data electrodes” and Asada shows pixels including at most a single common line, and accordingly does not teach or suggest wherein a pixel region includes “a plurality of auxiliary common lines on bent portions of the data electrodes and the common electrodes.” Applicants submit that Lee, ARA, and Asada, analyzed singly or in any combination do not teach or suggest the combined features of claim 12. Accordingly, Applicants respectfully submit that claim 12, and claims 13-23 depending from claim 12 are each allowable over Lee, ARA, and Asada.

Independent claim 24 recites a having a combination of features including “each pixel region includes: a plurality of data electrodes each including a plurality of first data electrode segments intersecting at data electrode bent portions; [and] wherein the data electrodes include a plurality of second data electrode segments that connect adjacent data electrodes at data electrode bent portions and that overlap the common lines.” Applicants submit that none of the cited references, including Lee, ARA, and Asada, analyzed singly or in any combination, teach or suggest the above quoted combination of features of claim 24. Accordingly, Applicants submit that claim 24, and claims 25-30 depending from claim 24 are each allowable over Lee, ARA, and Asada.

Applicants believe the above amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the

filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. *A duplicate copy of this sheet is enclosed.*

Respectfully submitted,

Dated: May 2, 2007

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